README file

General information

10/9/2025

1. PI's name: Abbie Chapman (formerly Abbie Johnson)
2. PI's ORCiD ID: https://orcid.org/0000-0002-7242-1715
3. Association award number: 20CDA35310239
4. Association award doi: N/A
5. Association award title: Hippocampal Vascular Function in Chronic Hypertension and Post-Stroke Dementia
6. Date range of data collection: 7/1/2020 – 12/31/2023
7. List of up to six key words to describe data topic:
   a. Chronic hypertension
   b. Vascular cognitive impairment
   c. Cerebrovascular disease
   d. Hippocampus
   e. Angiotensin II
   f. Enter Keyword 6
8. Other: N/A

Data and file overview

1. For each file name, a short description of what data it contains.

   Alternation Index: This file contains spontaneous alternation behavior data generated using a continuous y maze task to test spatial working memory function. Each group has a data sheet that includes calculations of mean +/- SEM. These data were collected between July 2021 – Dec 2022.

   Novel Object Recognition: This file contains object recognition data generated using a novel object recognition task to test long-term memory function. The paradigm consisted on 5 minutes acclimation to the open field arena (habituation), 10 minutes exploring two identical objects (acquisition), a 48 hours consolidation period (encoding), and a 5 minute test exploring one familiar and one novel object. Each group has a data sheet that includes calculations of mean +/- SEM. These data were collected between July 2021- Dec 2022.

   HippA Function: There are six excel files (one for each group) containing data regarding hippocampal arteriole function ex vivo. Each animal has a sheet containing the experimental protocol and data collected, and there is a Master Averages Spreadsheet that contains all of

the data from each animal within that group and calculated mean +/- SEM for outcome measurements. On this Master Spreadsheet, functional parameters were calculated, including % reactivity and sensitivity to pharmacological agents used to probe endothelial cell and vascular smooth muscle function. Further, structural and biomechanical properties are calculated including cross-sectional area, wall stress and strain. These data were collected between June 2022 – Feb 2023.

SHR Control, Record Nov 28, 2022: This file contains body weight data over time for the spontaneously hypertensive rats (SHR) in late-adulthood that were receiving regular drinking water as a vehicle control. These data were collected Nov 2022 – Feb 2023.

SHR+Apo treatment record, Nov 28, 2022: This file contains body weight data and volume of treated water consumed over time for the spontaneously hypertensive rats (SHR) in late-adulthood that were receiving 1.5mM apocynin in their drinking water for eight weeks. These data were collected Nov 2022 – Jan 2023.

SHR+Capto treatment record, Nov 23, 2022: This file contains body weight data and volume of treated water consumed over time for the spontaneously hypertensive rats (SHR) in late-adulthood that were receiving 100mg/kg/d captopril in their drinking water for 12 weeks. These data were collected Nov 2022 – Feb 2023.

2. Other: N/A

Note the data files you upload should be in a common format, accessible by anyone (Excel, Word, pdf, CSV, txt). Data files should not require a specialized software or application to open. Any analyses performed should be described below in sharing and access information (software, hardware with version).

The Association's Open Science Policy states: Any factual data that is needed for independent verification of research results must be made freely and publicly available in an Association-approved repository as soon as possible, and no later than the time of an associated publication or the end of the award period (and any no-cost extension), whichever comes first.

Sharing and access information

1. Licenses on data (The Association recommends CC-0 + attribution or CC-BY 4.0): https://creativecommons.org/publicdomain/zero/1.0/
   CC0 1.0 Universal

2. Licenses on source code: N/A

3. Links to other data deposits/repository links: N/A

4. Recommended citation for the data: Chapman, Abbie, 2025, "Hippocampal Vascular Function during Chronic Hypertesion- American Heart Association CDA2035310239", https://doi.org/10.7910/DVN/S501TO, Harvard Dataverse

Methodological information

1. Description of model:
    a. Human, animal: Animal
        i. Animal model, enter additional information: Rat
    b. Sex: Male
    c. Sample size: n=6-8/group
    d. Age: 4 – 16 months old
    e. Disease state: Chronic hypertension
    f. Interventions: angiotensin coverting enzyme (ACE) inhibitor or antioxidant treatment
    g. Comparisons: normotensive vs. hypertension, early v mid v late adulthood during hypertension, ACE inhibition vs. antioxidant
    h. Other: Spatial working memory, long-term memory, hippocampal arteriole endothelial function, hippocampal arteriole vascular smooth muscle function, hippocampal arteriole structure

2. Description of methods for data collection (may include links or references to publications or other documents): A novel object recognition task was used to assess long-term memory function, a continuous y maze task was used to determine spatial working memory, ex vivo pressure myography was used to assess hippocampal arteriole function and structure. https://pubmed.ncbi.nlm.nih.gov/37817376/

3. Description of methods used for processing data (how were data processed from raw data to analyzed data): Behavioral data was generated using automatic tracking software (AnyMaze), pressure myography data were manually collected and continuously recorded using iWorx. Data were analyzed using GraphPad Prism.

4. Describe any software or instruments needed to interpret or understand the data/results of your study. Please be specific to include software and hardware version numbers. None

5. Other: N/A